UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,636	04/08/2004	Sridhar Ranganathan	17,872	8821

7590 10/18/2005

Pauley Petersen & Erickson
Suite 365
2800 West Higgins Road
Hoffman Estates, IL 60195

EXAMINER	
GIBSON, KESHIA L	
ART UNIT	**PAPER NUMBER**
3761	

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/820,636	RANGANATHAN ET AL.	
	Examiner	Art Unit	
	Keshia Gibson	3761	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15,17-22 and 24-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15,17-22 and 24-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/8/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant is advised that the current application contains distinct inventions. However, for purposes of this Office Action, the Examiner has not required a restriction/election be made. Nevertheless, if appropriate, the Examiner may require a restriction requirement at any point during the prosecution of the current application.

Allowable Subject Matter

2. The indicated allowability of previous claims 9, 15, 16 and 21-23 is withdrawn in view of further consideration of reference(s) to Gertzman and Olsen et al. Rejections based on the newly cited reference(s) follow.

Response to Arguments

3. Applicant's arguments with respect to claims 1-43 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

4. Claims 1-15 and 20 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the absorbent structure having a thickness of between 1 to 10 millimeters, does not reasonably provide enablement for a thickness of about 10 millimeters or less. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. The specification is considered to only be

enabled for the absorbent structure having a thickness of between 1 to 10 millimeters (see specification, page 9, lines 26-28). It is especially considered not to be enabled for a structure having a thickness of zero; if the thickness of the absorbent structure were zero, there would be no absorbent structure.

5. Claims 1-15, 17-22, and 24-43 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a fluid intake rate of up to 5 cc/s (page 10), does not reasonably provide enablement for a fluid intake rate of about 0.5 cubic centimeters or greater. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. A fluid intake range of about 0.5 cubic centimeters or greater would include any intake rate between 0.5 and infinity; the specification is not enabled to an infinite number of fluid intake valves.

6. Claims 7 and 18 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a subtended angle of 120-180 degrees, does not reasonably provide enablement for 180 degrees of less. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. A range of 180 degrees of less includes any degrees between 0 and 180; the specification appears to only be enabled for 120-180 degrees.

7. Claims 8 and 19 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for 13-38 centimeters, does not reasonably provide enablement for a radius of curvature of about 38 centimeters or less. The specification

does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. A range of 38 cm or less includes and value between 0 and 38; the specification appears to only be enabled for 13-38 centimeters.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1-8; 10-15, 41 and 43 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Gertzman et al. (US 5,460,621).

In regard to Claims 1, 8, 15 and 41, Gertzman et al. disclose an absorbent structure 10 comprising a first surface 16 and a second surface 14. The first surface 16 expands to a lesser extent than the second surface 14; and, properties of the materials result in the structure having an overall concave shape in the presence of fluid (Fig. 2; column 4,

lines 46-65; column 3, lines 30-40). Gertzman et al. does not expressly disclose a specific thickness. However, Gertzman et al. do disclose that modifications desired swelling can be achieved by judicious selection of thickness (column 6, lines 7-13). Thus, it would have been obvious to one of ordinary skill in the art to provide the structure with a specific thickness, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).*

Gertzman et al. do not expressly disclose that the absorbent structure has a specific fluid intake rate, a specific radius of curvature for the absorbent structure, or at least one surface that undergoes anisotropic expansion. When the structure or composition recited in the reference is substantially identical to that of the claims of the instant invention, claimed properties or functions presumed to be inherent (MPEP 2112-2112.01). A prima facie case of either anticipation or obviousness has been established when the reference discloses all the limitations of a claim (in this case, an absorbent structure that expands) except for a property or function (in the present case, a specific fluid intake rate a specific radius of curvature for the absorbent structure, or a surface that undergoes anisotropic expansion) and the examiner can not determine whether or not the reference inherently possesses properties that anticipate or render obvious the claimed invention but has a basis for shifting the burden of proof to applicant, as per *In re Fitzgerald*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980).

In regard to Claim 2, the first 16 and second 14 surfaces are secured together so as to form a one-layer composite (column 4, lines 8-12). Thus, the absorbent structure 10 comprises a single layer of absorbent material.

In regard to Claims 3 and 5-6, the absorbent structure 10 comprises sponges (equivalent to foams) made from polyvinyl acetal polymers by methods described in US 4,098,728 (issued to Rosenblatt) (column 4, lines 12-15). In US, 4,098,728, Rosenblatt discloses a method for making a sponge by reacting a polymer (polyvinyl alcohol) in an aqueous solution having air bubbles dispersed within the solution (column 4, lines 40-53). As defined by Merriam-Webster dictionary, foam is "a material in a lightweight cellular form resulting from introduction of gas bubbles during manufacture." This supports the examiner's earlier reference to the sponges being equivalent to foams. Rosenblatt further discloses that the frothy mass produced by the reaction is then cured in a mold at elevated temperatures (column 4, lines 62-64). As supported by the On-Line Medical Dictionary (http://cancerweb.ncl.ac.uk/omd/), a thermoset is "a classification of materials that become hardened or cured by the application of heat." Thus, Gertzman et al. disclose that the absorbent structure 10 comprises thermoset foam.

In regard to Claim 4, the first surface 16 is a surface of a first layer 16 and the second surface 14 is a surface of a second layer 14. The surfaces of the layers 16, 14 are bonded to each other (column 4, lines 8-12). As discussed for Claim 1, the first surface 16 expands to a lesser extent than the second surface 14, resulting in the absorbent

structure having a concave shape when wet (Fig. 2; column 4, lines 46-65; column 3, lines 30-40).

In regard to Claims 7, in Fig. A below, the structure 10 of Gertzman et al. is marked up based on examiner's understanding of "subtended angle." As can be seen in Fig. A, the absorbent structure 10, has a subtended angle of about 180 degree or less.

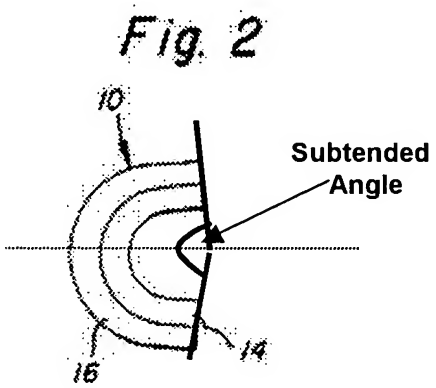

Fig. A: Examiner's markup of Gertzman's Fig. 2 to identify subtended angle.

Furthermore, this property is considered to be inherent based on the same structure/same property as provided in the discussion of Claim 1.

In regard to Claims 10-14, Gertzman et al. disclose that the any or all layers of the absorbent structure 10 may be fully or selectively, mechanically compressed so as to delay the volumetric expansion of one layer in relation to the other (column 5, lines 7-19). As discussed for Claim 1, Gertzman et al. disclose that the first surface 16 expands to a lesser extent than the second surface 14. Thus, Gertzman teaches that the first surface 16 may be treated to expand less in the presence of liquid relative to that of the

second surface 14. Mechanical compression has been considered equivalent to mechanical teasing and densification.

In regard to Claims 15 and 43, polyvinyl acteal foam is elastomeric, as supported by Takahashi (US 3741388, column 3, lines 20-34).

11. Claims 1-8, 10, 12-15, and 41 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Olsen et al. (US 5,591,150).

In regard to Claims 1, 7-8, 15, and 41, Olsen et al. disclose an absorbent structure/article 20 comprising a topsheet 38, backsheet 40, absorbent core 42, and an insert 44; the absorbent core 42 and the insert 44 are disposed between the topsheet 38 and backsheet 40 (column 6, lines 43-53). Olsen et al. further disclose that insert 44 may be placed above the absorbent core (as opposed to being placed below the core as previously depicted in Fig. 4) (column 12, lines 10-13; column 25, lines 17-20). Hereafter, any references to "Fig. 4-inversed" will be done with the understanding that the absorbent core 42 and the insert 44 have been interchanged in accordance to with such an arrangement. The insert 44 is considered analogous to a first surface and the absorbent core 42 is considered analogous to a second surface. The first surface 44 may expand to a lesser extent than the second surface 42 (column 25, lines 17-32). The second surface 42 arcs towards the first surface 44 (Fig. 4- inversed; column 10, lines 40-65). The properties of the materials result in the structure having an overall concave

shape (in relation to the garment-facing surface of the article) in the presence of fluid (Fig. 4- inversed; column 10, lines 40-65).

Gertzman et al. does not expressly disclose a specific thickness. However, the thickness of the structure affects the expansive properties of the structure; as such, it is considered to be a result effective variable (column 6, lines 7-13). Thus, it would have been obvious to one of ordinary skill in the art to provide the structure with a specific thickness, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).*

Olsen et al. do not expressly disclose that the structure has a specific fluid intake rate, a specific radius of curvature for the absorbent structure, a subtended angle of about 180 degrees, a specific subtended angle, or at least one surface that undergoes anisotropic expansion. However, when the structure recited in the reference is substantially identical to that of the claims of the instant invention, claimed properties or functions presumed to be inherent (MPEP 2112-2112.01). A prima facie case of either anticipation or obviousness has been established when the reference discloses all the limitations of a claim (in this case, an expanding absorbent structure) except for a property or function (in the present case, a specific fluid intake rate, a specific radius of curvature for the absorbent structure, a specific subtended angle, or that one of the surfaces undergoes anisotropic expansion) and the examiner can not determine whether or not the reference inherently possesses properties that anticipate or render obvious the claimed invention but has a basis for shifting the burden of proof.

In regard to Claim 2, Olsen et al. disclose that the first 44 and second 42 layers may be formed integrally (column 12, lines 9-13; column 18, lines 7-11). This would result in a single layer of absorbent material.

In regard to Claims 3 and 5-6, suitable materials for the first surface 44 include meltblown webs, airlaid web, and synthetic foams (column 6, line 44-column 17, line 32); suitable materials for the second surface 42 include cellulose wadding, absorbent foams, superabsorbent polymers, and combinations thereof (column 8, line 27-column 9, line 26).

In regard to Claim 4, Olsen et al. disclose that the layers of the article 20 may be affixed (bonded) to each other (column 22, line 60-column 23, line 29). As discussed for Claim 1, the first surface 44 expands to a lesser extent than the second surface 42, resulting in the absorbent structure having a concave shape when wet (Fig. 4- inversed; column 10, lines 40-65).

In regard to Claims 10 and 13, Olsen et al. disclose that the first surface 44 may comprise a selective stiffner (a portion having regions of different stiffness) to affect bending (or expansion) of the article (column 21, line 65-column 22, line 39). Inherently, increased stiffness results in reduced extensibility. Thus, at least one of the first and second surfaces 46, 44 comprises at least one region of reduced expansion.

In regard to Claim 12, the first surface 44 can have slits (column 25, lines 48-52). Thus at least one of the surfaces 42, 44 comprises at least one slit capable of control shaping.

In regard to Claim 14, Olsen discloses that the stiffening is done by heat treatment (column 22, lines 29-31).

12. Claims 9, 17-20, 22, 24-25, 28-29 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gertzman.

In regard to Claims 9, 17, 22, and 42, Gertzman et al. disclose the claimed invention (as discussed for Claim 1) but do not disclose a specific basis weight for the structure or its layers or the percentage by which the layers expand. However, the basis weight of the structure and the percent of expansion of its layers affect the overall expansion of the article and its expansion, as supported by Costa (US 20050096619, [0070]). Thus, it would have been obvious to one of ordinary skill in the art to provide the structure or its layers with a specific basis weight or percentage of expansion, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).*

In regard to Claims 18-20, 24-25, and 28-29, see previous discussion for Claims 1, 5-8 and 13-14.

13. Claims 9, 17-20, 22, 24-36, 38-40 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olsen et al.

In regard to Claims 9, 17, 22, 30, 38, and 42, Olsen et al. disclose the claimed invention (as discussed for Claim 1) but do not disclose a specific basis weight for the structure or

its layers or the percentage by which the layers expand. However, the basis weight of the structure and the percent of expansion of its layers affect the overall expansion of the article and its expansion, as supported by Costa (US 20050096619, [0070]). Thus, it would have been obvious to one of ordinary skill in the art to provide the structure or its layers with a specific basis weight or percentage of expansion, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).*

In regard to Claims 18-20, 24-25, and 27-29, see previous discussion for Claims 1, 5-8 and 12-14.

In regard to Claim 26, the second layer may comprise a superabsorbent material (column 8, line 27- column 9, line 4).

In regard to Claim 31-36, see discussion of Olsen for Claims 2-6 and 10.

In regard to Claim 37, as discussed for Claim 14, Olsen discloses that the stiffening is done by heat treatment (column 22, lines 29-31).

In regard to Claims 39-40, the article 20 relates to absorbent articles such as sanitary napkins, pantiliners, and incontinence pads, all of which are personal care absorbent articles (abstract; column 1, lines 39-47). Furthermore, it has been held that a recitation with respect to the manner in which a claimed invention is intended to be employed does not differentiate the claimed invention from a prior art satisfying the claimed structural limitations. *Ex parte Maham, 2 USPQ2d 1647 (1987). In re Paulsen, 30 F.3d 1475, 31 USPQ 2d 1671 (Fed. Cir. 1994).*

TATYANA ZALUKAEVA
SUPERVISORY PRIMARY EXAMINER

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keshia Gibson whose telephone number is (571) 272-7136. The examiner can normally be reached on M-F 8:30 a.m. - 6 p.m., out every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tatyana Zalukaeva can be reached on (571) 272-1115. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Keshia Gibson
Examiner
Art Unit 3761

klg 10/7/05

TATYANA ZALUKAEVA
SUPERVISORY PRIMARY EXAMINER